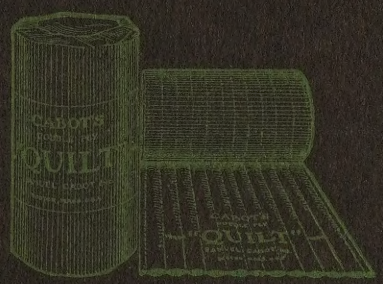
Sound Deadening

Cabot's Deadening Quilt



Samuel Cabot, Inc.
Boston, Mass.

New York Chicago

Sound Deadening-Cabot's Quilt.

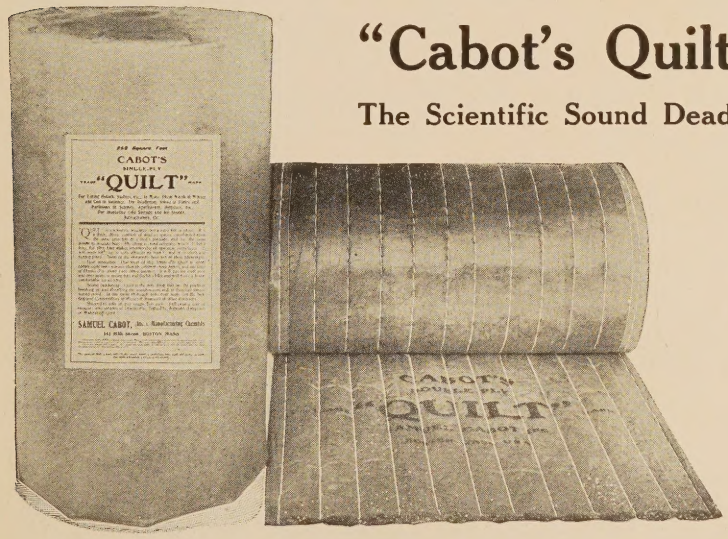
Standard size Circular 7½ x 10½ recommended by American Institute of Architects.

RW 1046 $30.00 Inogry

The Old Pierce House, Dorchester, Mass. Built 1635

This admirably-preserved specimen of the earliest New England type of building is still owned by direct descendants of its builder, and is reverently cared for. In 1893 the walls were opened for repairs, and they were found to be stuffed between the studding with eel-grass, which was in a perfect state of preservation after more than two and a half centuries!* The Babcock House, Milton, Mass., built 1723, and other old houses in Connecticut, Nova Scotia, etc., have since been found to be insulated in the same way, and the eel-grass undecayed, thus proving beyond question the permanence of this fibre with which Cabot's Sheathing and Deafening Quilt is made.

*We have in a bottle in our office a sample of this 288-year old eel-grass, with a statement from the owner, as shown on page 2.



"Cabot's Quilt"

The Scientific Sound Deadener and Heat Insulator

Efficient
Permanent
Sanitary
Flexible
Fire-Resistant
Non-Decaying

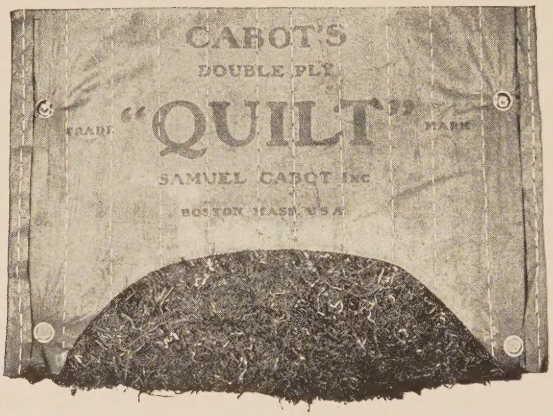
"Quilt" is a scientifically-constructed insulator for making houses warm in winter and cool in summer, for insulating cold stores, refrigerators, ice-houses, etc., for deadening sound in floors and partitions, and for numerous other purposes. It was invented about thirty years ago, and its introduction has revolutionized insulating and sound-deadening methods in this country and abroad.

Quilt is a felted matting of cured eel-grass stitched with strong thread, securely fastened, between two layers of exceedingly strong, tough "Kraft" paper. The eel-grass fibres are long and flat, and cross each other at every angle, as shown in the illustration on page 2. This forms a thick, resilient cushion of small and irregular cells of dead air, confined by the ribbons of eel-grass. The structure thus built up—first a layer of matter and then a layer of air—makes an ideal muffler of noise. The sound-waves are broken up and absorbed or dissipated.

AT 3575 So49

Compare this structure with the ordinary so-called deadening felts. The latter are thin and dense. They are of about one-eighth the thickness of Double-ply Quilt, and they have no air-spaces and almost no capacity of absorbing sound.

This is the reason why no practicable method of sound-deadening has ever been devised that is as effective as Cabot's Quilt, the efficiency of which has been proved by over thirty years' use in thousands of buildings of all kinds, and especially of the more difficult kinds, such as musical studios, schools, apartment-houses, bowling alleys, etc.

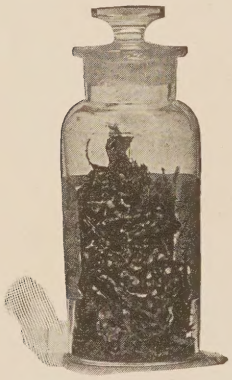


Photograph Showing Laminated Matted Structure of Eel-grass in Quilt

This matting contains thousands of small air spaces in which the air lies still and dead because these spaces are irregular in shape and the air cannot circulate. This construction also breaks up and absorbs sound-waves.

Why Eel-Grass?

Quilt is made of eel-grass because that fibre has marvellous qualities that make it immensely superior to any other known.*



288-Year-Old Eel-Grass from Old Pierce House

Tea-weed taken from the Pierce House Dorchester in 1893. The house was built about 1635 and this had never been disturbed. Geo. Francis Pierce Oak Ave Dorch

1. It has the long, flat blade that is necessary to make the air spaces which furnish its great insulating power. A round fibre will not do it.
2. It will not decay! This remarkable fact is proved by many examples, and we have in our office a sample of eel-grass that is over 288 years old. (See illustrations.)
3. It is absolutely sanitary and will not harbor insects or vermin.
4. It is very uninflammable! It will char and shrivel under flame, but fire will not spread in it. No other vegetable fibre has this property, and it makes Quilt an actual fire retardent.† (See page 24 for evidence of actual cases where Quilt has saved several buildings from destruction by fire.)
5. It grows in salt water and contains silicon to a large extent in place of the carbon of plants that grow in the air. This makes it non-inflammable, prevents rats and mice from eating it, and helps protect it against decay.
6. It never loses its toughness and elasticity.

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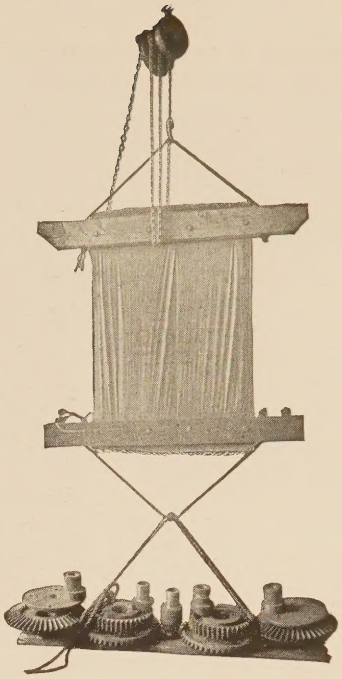
* Quilt is the pioneer article of its kind. It has been frankly imitated by three or four products using waste flax, or tow, and cattle hair in place of eel-grass. Note that neither of these have flat fibres and that they have none of the qualities of eel-grass cited above. They will decay, harbor insects and vermin, and tow is the most inflammable of all vegetable fibres. "Like fire in flax" is an expression used in Ireland, which is a flax country, to illustrate great speed. Of cattle hair a high authority says . . . "is usually contaminated with bacteriological poison from its origin, and may also contain arsenic salts . . . it is not permanent, becoming fragile and powdered when very dry, and rotten when wet."

†Test the sample with a match. The paper only will burn, and very slowly; the grass will simply shrivel and char while the flame is applied, but will not carry fire. (See page 24.) The Asbestos Quilt is almost absolutely fireproof.

Carefully and Thoroughly Manufactured

The materials used in Quilt are all scientifically selected for their value in producing the results desired, and the process and care of manufacture receive equally close attention.



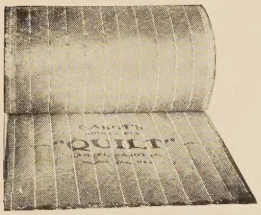
Sheet of Quilt Sustaining a Weight of Almost 900 lbs. of Castings

Wonderfully Strong Paper

The Quilt covering is made of wonderfully strong "Kraft" paper that is almost untearable in ordinary usage. Workmen find it "rough-house" proof, while the weak papers commonly used cause great loss of time and material by tearing. "Kraft" paper is so thin that it makes only a light envelope for the eel-grass matting from which Quilt derives its great non-conducting power for heat and sound. The picture herewith, showing a web of Quilt sustaining a weight of nearly nine hundred pounds, illustrates its great strength.

Stitches Will Not Rip

By a patented process the stitching of Quilt is fastened so that it cannot rip out. This is very important, for if stitching rips the filling settles and falls apart, ruining the efficiency. Quilt is the only insulator that has fastened stitching.



Twelve Rows of Stitching, Three Inches Apart

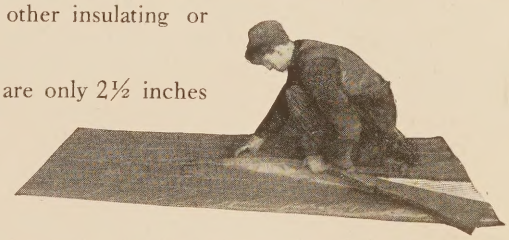
Quilt is also the only material that is stitched in 3-inch widths, twelve rows. Others have only 5-inch and 7-inch widths The eel-grass fibre is more than five times as long as other fibres, and this 3-inch stitching makes it absolutely certain that the matting cannot pack or settle down.

Flexibility

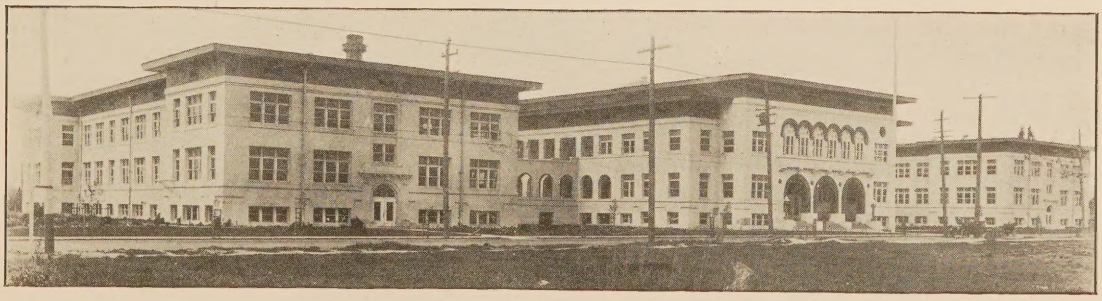
The very strong, thin paper, the thorough stitching and the length of fibre make Quilt so flexible that it can be used on any surface. It will go around pipes or into corners or over any projections without breaking the continuity of the insulation and at a minimum labor cost. In this respect it is far superior to any other insulating or deadening material that is made.

Splitting into 18-Inch Strips

The two middle rows of stitching are only 2½ inches apart, for convenience in splitting into two 18-inch strips, to lay between studding. Quilt can be cut into any width or shape with perfect ease on account of the length of fibre, frequency and firmness of stitching and strength of paper.



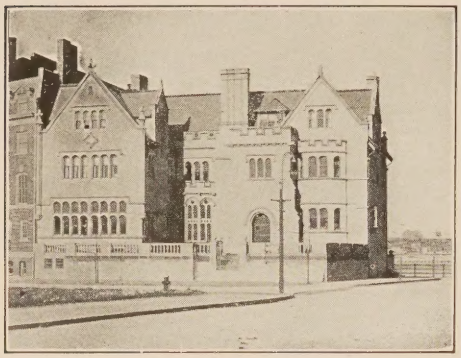
Splitting into Strips with Shears. A Knife or Saw Can Be Used



Manual Arts High School, Los Angeles
Deadened with Cabot's Quilt
Parkinson & Bergstrom, Architects, Los Angeles

The First Scientific Sound Deadener

Quilt is *the first thing that was ever scientifically made for deadening sound.* None of the so-called deadeners that had previously been used were made for sound-deadening purposes, but were brought into this field in a haphazard, groping way because no really efficient thing existed. They were absolutely ineffective because they had no sound-absorbing power. Sound travels in waves, *and Quilt breaks up and absorbs these sound-waves*, which pass through any dense or vibrant substance, but are lost in the elastic, laminated cushion of Quilt. Felts are dense and the sound freely passes through them, and this is true not only of plain felts, but of those that are pressed into corrugations, or coated with pitch, devices which are frequently resorted to for the sake of appearances. Mineral wool and other packings are not permanent. They settle down and finally are reduced to a powder. Moreover, they can be used only between the floor timbers or studding, and cannot be intervened between the floor itself and the timber and thus cut off the telephonic connection. Quilt does so intervene, and a floor floated upon it is isolated completely.



City Residence, Boston
Deadened with Cabot's Quilt
Chapman & Frazer, Architects, Boston

"Naulakha," Waite, Vt., December 10, 1895.

"We are about to wood-ceil an attic 80 x 20, and wish to put your sheathing under the wood. I make it that we shall need some two thousand square feet of the Quilt. Could you kindly let us have an estimate on this? I have found the Quilt invaluable as a deadener of noise and now wish to test it as a weather protection." RUDYARD KIPLING.

(Mr. Kipling wrote next year, saying that he had found it "a very efficient wind, cold, and sound protector.")

Haverhill, Mass., April 6, 1897.

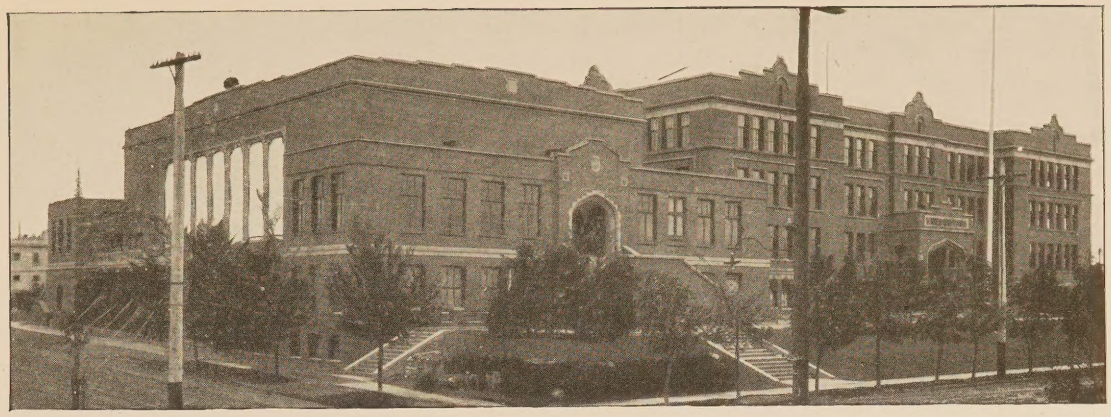
"We used your Quilt on floor, between floorings, and on walls, with furring strips to hold it to the studs, lathing to the furring strips, to deaden sound for an invalid's room. The owner tells us that he is much pleased with it; that carpenters hammering in the hall adjoining do not disturb him in the least."

PERKINS & BANCROFT,
Architects.

"I used your two-ply Sheathing Quilt for deafening between two floors with no plaster to intervene, and the result was excellent." FREDERICK BAIRD,
Cleveland, Ohio.

Canadian Pacific Railway Station and Royal Alexandra Hotel, Winnipeg
Cabot's Deafening Quilt Used for Sound-Deadening

Roosevelt Junior High School, San Diego, Cal.
Theo. C. Kistner, Architect, San Diego
Deadened with Cabot's Quilt



Lincoln High School, Seattle
Deadened with Cabot's Quilt
Edgar Blair, Architect, Seattle

Schoolhouse Deadening

"Next to light and ventilation, sound-deadening is perhaps the most important item of schoolhouse construction." Absolute quiet is essential for proper conditions of study, and if pupils are disturbed by the reciting, singing and marching that is going on above, below and around them, they cannot concentrate upon their lessons and they are under a constant nervous strain.

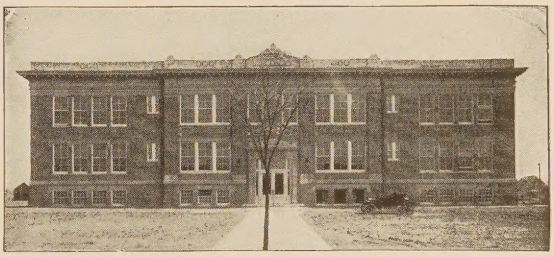
In this field Quilt has scored one of its greatest triumphs, and there are hundreds of schoolhouses in all parts of the country that have been deadened with it. We have a special illustrated booklet upon school-deadening, which will be sent on request.

Triple-ply or Double-ply Quilt are mostly used for school work. The fire-resisting qualities of Quilt are of peculiar importance in schoolhouse construction. Quilt is so fire-resistant that it has saved many buildings from burning. (See page 24.) This is true of the standard grades of Quilt, but if building regulations absolutely require the use of asbestos, as is still sometimes the case, Asbestos Fireproof Quilt can be used.

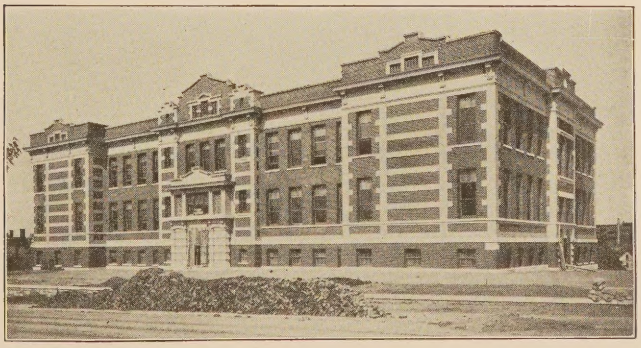
Seattle, Wash., February 21, 1911.

"We enclose herewith print of school building erected from our plans last year. All the floors and partitions of classrooms and music rooms of this building were insulated with your double-ply eel-grass Quilt, and the results have been most satisfactory."

BEEZER BROTHERS, Architects.



Freeport School, Freeport, L. I.
Deadened with Cabot's Quilt
Charles M. Hart, Architect, Bay Shore, N.Y.



Morse School, Kansas City, Mo.
Deadened with Cabot's Quilt
Charles A. Smith, Architect, Kansas City

Montreal, July 21, 1910.

"'Cabot's Quilt' furnished by you and used in the 'Meilleur' School, Fullum Street, Montreal, has been satisfactory."

Yours very truly,
JOSEPH PERRAULT, Architect.

Pittsburg, Pa.

"I have used your Quilt in the Sharpsburg School, the Wilkinsburg School, and a residence for Mr. C. H. Allerton, where in every case it has given entire satisfaction."

J. EDWARD KEIRN, Architect.

Columbia, S. C.

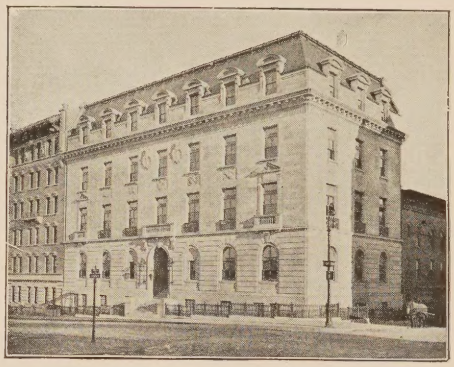
"We send you a photograph of the Anderson (S. C.) Graded School, in which we used your Quilt with entire satisfaction as a deadener between the first and second floors."

WILSON & EDWARDS, Architects.

Deadening in Musical Studios

Musical studios put sound-deadeners to the supreme practical test. Every room in such buildings is used for practice or recital of vocal or instrumental music, and unless each room is completely isolated from its neighbor's strains of harmony the result is utterly distracting

Cabot's Quilt has a most wonderful record of success in this field, dating from the time of the Nebraska University Conservatory of Music, in 1894, as per letter below from Mr. Willard Kimball, Director, down to the present day, as will be seen from the accompanying illustrations and letters upon this page and the especially interesting cases of the St. Paul's Girls' School at Hammersmith, Eng., and the James Milliken University on page 9. Dozens of other similar cases can be cited where Quilt has been *completely successful* in solving this very difficult problem *in actual use*, not merely theoretically. This feature was considered so important by those in charge of building the New England Conservatory of Music and Conservatory Chambers, that they consulted Prof. Charles L. Norton, of the Massachusetts Institute of Technology, upon the subject, and he made the most elaborate and exhaustive series of tests that probably ever have been made to determine what method of deadening should be used. The results were entirely in favor of Quilt, which proved to be by far the most efficient as well as by far the cheapest of all the methods used, and Professor Norton's conclusions were summed up as follows:

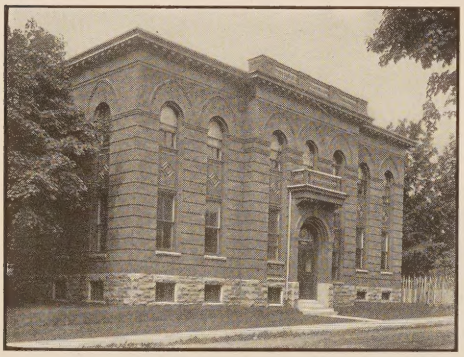


Institute of Musical Art, New York
Deadened with Asbestos Quilt
Donn Barber, Architect

"The efficiency of the Cabot Quilt as a material for rendering the partition 'sound-proof' is so clearly demonstrated in these tests that I recommend it for use in the partitions for which these tests were made." (See pages 7 and 8.)

Quilt was used in both partitions and floors with absolute success, and the other pictures and verbal evidence shown upon this page prove conclusively that Quilt can be relied upon even in the most difficult cases.

As a further result of the above tests the Canadian Conservatory of Music at Ottawa also used Quilt for deadening, and the following letter shows their result:



The Canadian Conservatory of Music, Ottawa, Ont.
E. L. Horwood, Architect, Ottawa

Canadian Conservatory of Music,
Ottawa, December 21, 1903.

Dear Sir,—A primary requirement of paramount importance in the construction of such an edifice as a Conservatory of Music is that the building shall be internally sound-proof, and in this essential particular the Canadian Conservatory of Music has exceeded the most sanguine expectations of both architect and Directorate. We used Cabot's Sheathing Quilt next to the studding in all partitions and between ceilings and floors with the above excellent results.

Yours truly,

H. PUDDICOMBE,
Musical Director.

Conservatory of Music, University of Nebraska,
Lincoln, Neb., August 5, 1895.

Dear Sir,—I am pleased to say that I used twenty-five thousand square feet of Cabot's Sheathing Quilt as a deadener of sound, when building my new Conservatory of Music in this city last year, with entire satisfaction. It was used next to studding in all partitions, and between ceilings and floors, and I know of no other material at anything like its cost which I think would serve its purpose so well.

Respectfully,

WILLARD KIMBALL,
Director.

Margaret Olivia Hall, Northfield, Mass.
(Russell Sage Foundation)
Delano & Aldrich, Architects, New York, who say:

"Cabot's Quilt, used in this building for deafening purposes, has proved entirely satisfactory."

Report of Charles L. Norton

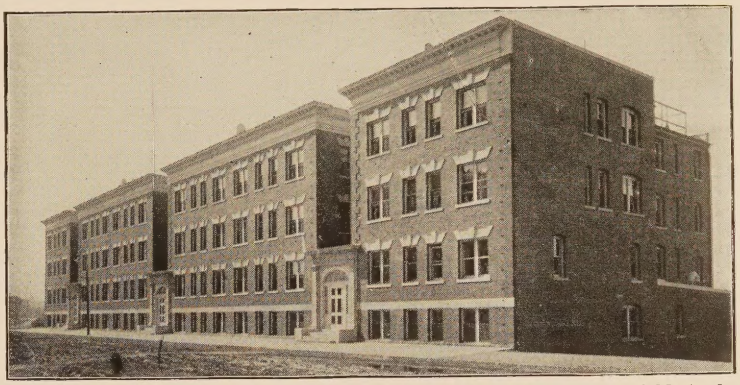
Sound-proof Partitions

A Practical Scientific Test

The subject of partitions for fireproof buildings is one which has led to much investigation, especially by the New York City Building Department.

When it is desired to make a partition which shall be reasonably sound-proof, it is apparently necessary to diminish somewhat the absolute incombustibility of the partition, though to a less extent than was supposed.

The following account of tests made for Mr. Edward T. Barker, architect of the dormitories of the New England Conservatory of Music, will show the relative values of some of the typical partitions as sound-proof separations between rooms:



Conservatory Chambers, Dormitories for the New England Conservatory of Music, for which Prof. Norton's Tests were made

E. T. Barker, Architect, Boston

There were built upon the concrete floor of the B. & A. warehouse, East Boston, five rooms 7 feet square, whose side walls were made of the several partitions. The rooms were built upon a floor of the same kind as that which is to be used in the buildings for the students of the conservatory, for which the results of these tests were especially desired.

The rooms were built near one another on the fifth floor of the warehouse, in a large loft or room about 50 x 70 feet long and 9 feet high. The ceiling of each room was the under surface of the concrete ceiling of the large room. Each room had a floor of two thicknesses of ⅞-inch floor boards, with *two* thicknesses of Cabot's Sheathing Quilt between the floor boards and the concrete slab of the main floor. On one side of each room was a door with a glass panel, the door-jambs being faced with soft felt, and the bottom of the door was fitted with a stop or "weather strip" operated when the door closed, making a tight joint at the bottom.

The side with the door will be referred to as the front in the following description.

Room A — This room was submitted by the National Fireproofing Company, and its four sides were made of terra-cotta blocks. The front and back walls were made of blocks 4 inches thick; the sides of 2-inch and 3-inch blocks. After the blocks were in position the room was given two coats of plaster inside and out.

Room B was submitted by the Keystone Block Company, and its four walls were made of the blocks of the Keystone material, of the nature of plaster of paris, with a fibrous bond. The front wall was of blocks 4 inches thick, and the left side was of blocks 2 inches thick, the back of blocks 3 inches thick, and the right side of two 2-inch blocks, with a 2-inch air-space between them. The entire room was given two coats of plaster inside and out, except the front, which had no plaster on the outside of the blocks.

Room C was submitted by the Sackett Wall Board Company, and was built of Sackett plaster board ¼ inch thick, wired upon both sides of 3-inch steel channels. The channel truss or studs of the back and right side were wrapped with felt about ⅛ inch in thickness before applying the plaster board. The Sackett plaster board is a composite board of alternate layers of paper and plaster, the whole being about ¼ inch thick. This room, like the other, was plastered inside and out, but to a slightly less thickness.

Room D was submitted by J. Russell & Co., and was of a more complex construction. The left side was a solid partition of metallic lath and plaster. The ⅞-inch steel ties were spaced 16 inches on centres, metal lath was applied to one side only of the ties, and then plastered to a thickness of 2 inches. The rear wall was built upon two rows of ⅞-inch studs staggered. Between them was placed one thickness of waterproof paper about $\frac{1}{32}$ inch thick, and metal lath was wired to both sides of the row of studs and given two coats of plaster. The right side was of the same construction, with a layer of ⅛-inch felt between the two thicknesses of waterproof paper. The front wall was of metal lath on two rows of staggered studs, with Cabot's Seaweed Quilt between the rows of studs.

Room E was submitted by Mr. Samuel Cabot, and was wholly of metal lath and plaster double partitions, with the space between the lath filled with Cabot's Sheathing Quilt. The front and left sides contained three thicknesses of Quilt, and the right side and rear two thicknesses. The Quilt was placed between the studs and the metal lath, and where three thicknesses were used, one was between the row of studs as well.

The rooms had been vigorously dried for several days, none longer than a week, but the whole building was so damp and the time so short that no considerable part of the plaster and none of the interior portions of the partition were dry. The Sackett board room was the driest, and *Cabot's was the least dry.**

The preliminary trials showed so great a range of efficiency of the several constructions that the microphonic apparatus, which was designed to make rapid comparisons of sound-intensity possible, could not be used. Reliance had to be placed wholly on listening with and without a felt-mouthed stethoscope at the outside of the partition to sounds of various quality and intensity from within. The notes of the piano, violin, cornet, and the human voice were carefully tried throughout wide ranges of pitch and intensity. The performers and the instruments were interchanged; every possible chance of unfairness, due to the variations of intensity in the sounds used, was eliminated. Of course no interchange of the positions of the room was possible. No electrically-driven tuning-fork could be used for producing sounds of constant loudness. The insulating property of some of the partitions was so good that not even the blare of a cornet or the overpowering tones of an Italian tenor, drawn from the ranks of the laborers on the building, could be heard through the partition except by careful listening within a few inches of the wall.

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*Note that the Cabot room (which was the last built) was the least dry, and bear in mind that water is a very perfect sound-conductor; yet in spite of this handicap Cabot's Quilt was found to be much the best. — *S. C., Inc.*

New England Conservatory of Music, Boston
Wheelwright & Haven, Architects

After much consideration the writer has given the following ratings to the different partitions. The order of their standing upon the list indicates their efficiency as compared with those above and below them.

No.	Room	Side	Approximate Efficiency on Arbitrary Scale	Composition
1	E	Left	100	Cabot's Quilt, 3 thick + metal lath
2	E	Right	95	Cabot's Quilt, 2 thick + metal lath
3	E	Rear	95	Cabot's Quilt, 2 thick + metal lath
4	C	Rear	85	Sackett Board, 2 felt on ⊏ s
5	C	Left	85	Sackett Board, 2 felt on ⊏
6	C	Right	80	Sackett Board, 2 felt
7	D	Rear	75	Metal lath + paper
8	D	Right	75	Metal lath, paper + felt
9	B	Right	60	Two 2-inch Keystone Block with 2-inch air space
10	A	Rear	50	4-inch National Terra-Cotta Blocks
11	B	Rear	50	3-inch Keystone Blocks
12	A	Right	45	3-inch National Terra-Cotta Blocks
13	B	Left	40	2-inch Keystone Blocks
14	A	Left	40	2-inch National Terra-Cotta Blocks
15	D	Left	30	2-inch Metal Lath, solid plaster

Nothing more is to be inferred from the numerical efficiencies than that the first partition is about three times as good as the last, and that the numerical interval between any two partitions on the list merely indicates the order of magnitude of the difference between the partitions.

The partitions making up the rooms submitted by Samuel Cabot and the Sackett Wall Board Company were the most efficient; but it is distinctly to be borne in mind that no other room had so easy a test as did these, in that each of the others had one thin and ineffective side which transmitted sound to the sides adjacent to it. The thin side of the Keystone room was noticeably resonant, and plainly rendered it impossible to make a fully satisfactory test of the air-space partition. The solid metal lath plaster partition of the room submitted by J. Russell & Co. acted in the same way in that room. I do not believe, however, that this defect in the structures has caused any changes in the position on the efficient list of the Cabot and Sackett rooms.

The efficiency of the Cabot Quilt as a material for rendering the partition "sound-proof" is so clearly demonstrated in these tests that I recommend it for use in the partitions for which these tests were made. The nature of the material in which the Quilt is encased should be carefully considered. I do not think it within the province of this report to discuss the partition from other than acoustic considerations, and as an encasing medium the most effective material is Sackett Board and Adamant Plaster.

I would therefore give as my opinion that the best acoustic results would be attained by using a partition of Sackett Board and Plaster with two thicknesses of Cabot's Quilt between the plaster board. I should recommend a wooden stud rather than steel channels if the fire risk is not materially increased thereby.

As later tests showed, some sort of a suspended ceiling will be needed, as the concrete slab transmits the sound across the top of the partition readily. No trouble will be given by the sound passing through the concrete to the rooms above or below; but unless a layer of Cabot's Quilt, with under-lath and plaster, or of Sackett Board and Plaster, be put on the under side of the concrete ceiling, the efficiency of the partitions will be diminished somewhat.

The front walls could not be tested because of the leaks around the door and through the door frames, even where covered with a large shutter padded with Cabot's Quilt. It is evident that a double glass door will be needed. The floor construction is acoustically good.

Respectfully submitted,
C. L. NORTON.

Boston, August 8, 1902.

The Methods of Construction

(See page 21 for photographs of types of construction used)

Cabot's Deafening Quilt was adopted for deadening in both the Conservatory of Music and the Students' Dormitories, in accordance with the foregoing recommendation of Professor Norton, supplemented as it was by the endorsement of all the other witnesses of the tests (including Mr. Edmund M. Wheelwright, of Wheelwright & Haven, architects of the Conservatory, Mr. Charles P. Gardner, President of the Conservatory, and Mr. Frank W. Hale, General Manager, who was deeply interested and whose letter we print below, Mr. E. T. Barker, architect of the dormitories, and many of the Trustees and Directors of the Conservatory), who were unanimously of the opinion that the superiority of the Quilt-lined partitions was even greater than Professor Norton's conservative report indicates.

NEW ENGLAND CONSERVATORY OF MUSIC
Huntington Avenue

GEORGE W. CHADWICK
Musical Director

FRANK W. HALE
General Manager

Boston, Mass., August 14, 1902.

Dear Sir: I have become very much interested in the matter of sound-proof material for buildings containing musical instruments, and among other materials used for this purpose I had occasion to be present at a test wherein the Cabot Quilt was used. The test consisted of a room large enough to contain a pianoforte and several performers, the room being entirely covered with your Quilt. The result was very satisfactory, so much so that I advised this material's being used in the construction of the new building of the New England Conservatory of Music, and also in the new residences for women students. We have no doubt but that the result will fully meet our expectations.

Yours very truly,
FRANK W. HALE, General Manager.

St. Paul's Girls' School (Music School), Hammersmith, Eng.
Gerald C. Horsley, F. R. I. B. A., and Dendy Watney, Architects

"I am happy to say that the use of the Quilt for sound-proofing purposes has proved to be most successful."

DENDY WATNEY.

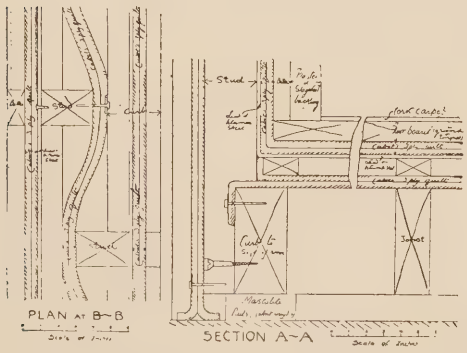
St. Paul's Girls' School (New Music School)

(From the Architect and Contract Reporter, London)

"This addition to the buildings of the St. Paul's Girls' School, Brook Green, Hammersmith, W., has recently been completed from the designs of Mr. Gerald C. Horsley, F. R. I. B. A., the architect of the school, and Mr. Dendy Watney, the surveyor to the Governors. . . .

"It may perhaps be of interest to give some further information concerning the construction of the practice rooms, as these have proved quite satisfactory in not transmitting any sound whatsoever. It was especially desired that the building should be sound-proof in this respect, and the *work has been so carried out that it is impossible to hear any sound either through the floors or the partitions.* Before this result could be arrived at many experiments had to be made, and it was finally resolved to construct the rooms according to the detail drawings published herewith.* From these drawings it will be seen that each room is practically an insulated box. This has been achieved principally *by a careful use of Cabot's Three-ply Quilt*—a material which is made in America and much used there in buildings to deaden sound."

Plan of Sound Deadening



***New Music School, St. Paul's Girls' School, Hammersmith**

Conservatory of Music of the James Milliken University, Decatur, Ill.
Patton & Miller, Architects, Chicago

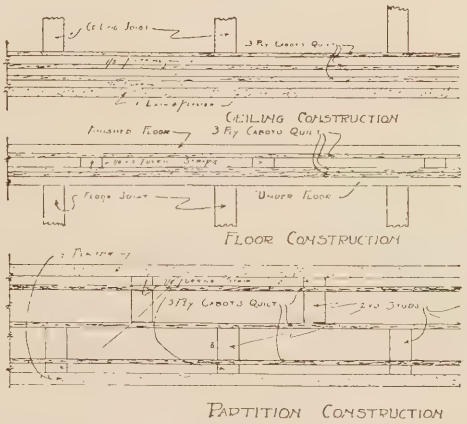
A Conclusive Sound Deadening Test

The architects specified Cabot's Quilt for deadening these Music Rooms and Studios, having successfully used it many times before for similar purposes, and knowing of its use in the New England Conservatory of Music, New York Institute of Musical Art, Canadian Conservatory of Music, and hundreds of other buildings, where complete deadening is essential. Makers of another product made strong and definite claims to the Trustees of superiority for their product over Cabot's Quilt, and the Trustees ordered an elaborate test made. Two rooms were built, one deadened with Quilt and the other, of exactly the same construction, with the imitation, and the results were reported by the architects as follows:

"Those present at the time the tone-proofing tests were made were Prof. H. H. Kaeuper, Director of the Conservatory of Music, Profs. Olds and Morphy, Mr. J. M. Brownback, one of the Trustees of the University, two representatives of the (. . .) Co., and John A. Scribbins, Superintendent for Patton & Miller, Architects.

"The results of the tests proved that the Cabot's Quilt was more effective in stopping sound than the (. . .). This was consented to by all present, who followed closely each step of the testing."

PATTON & MILLER.



Drawings by Patton & Miller, Architects, of Chicago, Showing Ceiling, Floor, and Partition Construction of the Sound Deadening Test Rooms for the Conservatory of Music of the James Milliken University, Decatur, Ill.

Carleton College Conservatory of Music, Northfield, Minn.
Patton, Holmes & Flinn, Architects, Chicago Edward Strong, Director

From Letter of Mr. Edward Strong, Director:

Northfield, Minn., June 12, 1915.

"I have your letter of the 9th inst., and in reply will say that Cabot's Quilt was used in the construction of our new Music Hall and has proven entirely satisfactory. The sound-proofing features of our building are a little unusual, and your Quilt was extensively used both in partitions and floors. Our rooms are divided by 9-inch walls, and in each one is an air space of about 4 inches. These inside wall surfaces are covered by the Quilt. Our building is thoroughly fireproof and concrete construction throughout. The hardwood floors rest directly on two thicknesses of Cabot's Quilt, which is laid on the concrete. The floors have proven absolutely satisfactory in the matter of sound-proofing and are clean and elastic. The Quilt is odorless and fireproof, and does not seem to make any dust. I am glad to testify to the excellent results we have obtained."

EDWARD STRONG.

Chicago, November 20, 1906.

"I have used your two-ply Deafening Quilt for the deafening of a building containing eleven music rooms on the main floor, while there are about eight classrooms on the second floor, immediately above.

"Your material was put on the ceilings, on the floors, and on both sides of the partitions separating the music rooms from each other and from a corridor running lengthwise of the building, where it was tacked on to the studdings, joists, and floor lining and secured in place by 1 x 2-inch strips nailed directly over it.

"I am pleased to say that I found this material to do just what you claim for it. The tests which were made with eleven pianos going on the first floor were very satisfactory. Nothing but a very faint sound of music could be heard in the rooms above as well as between the rooms."

FRITZ FOLTZ, Architect.

An Unique Court House

The Jail is on the Upper Floors, and the Floor-Deadening is Perfect

Corpus Christi Court House, San Antonio. Statement by Harvey L. Page, architect:

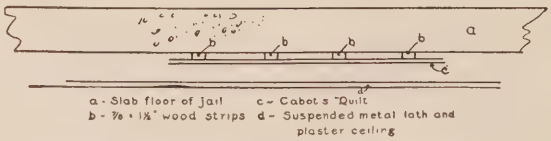
"Your Quilting was placed directly under the slab floor of the jail between the suspended metal lath ceiling of the court room, which is directly under the jail floor, and the insulation is perfect. When I suggested the placing of the jail on the two upper floors of the Court House the principal objection raised was that the yelling and noise of the prisoners would disturb those in the court rooms below."

HARVEY L. PAGE, Architect.

Corpus Christi Court House
Harvey L. Page, Architect, San Antonio, Texas

The Prison de Luxe

"What we term the fourth floor of the Court House, which in reality is the fifth floor of the building, as the basement is entirely above grade, is the first floor of the jail and the top floor is the second floor of jail."



Drawing Showing Method of Deadening the Jail Floor in Corpus Christi Court House

Sound-proof Apartments

Civilized construction now requires sound-proof floors and partitions in apartment houses. Tenants have rebelled against apartments where they hear every noise made by their neighbors, and where all their own conversations may be heard by others. The following pages show how the best modern buildings are now meeting this demand. No tenant will hereafter remain in a noisy apartment when he knows that he can rent one that has deadened floors and partitions. A sound-proof building insures more permanent tenants and the deadening is a first-class investment for this reason alone, but sound-proofing is an actual economy in construction on the modern plan. It saves valuable floor space and also reduces costs by lightening construction.

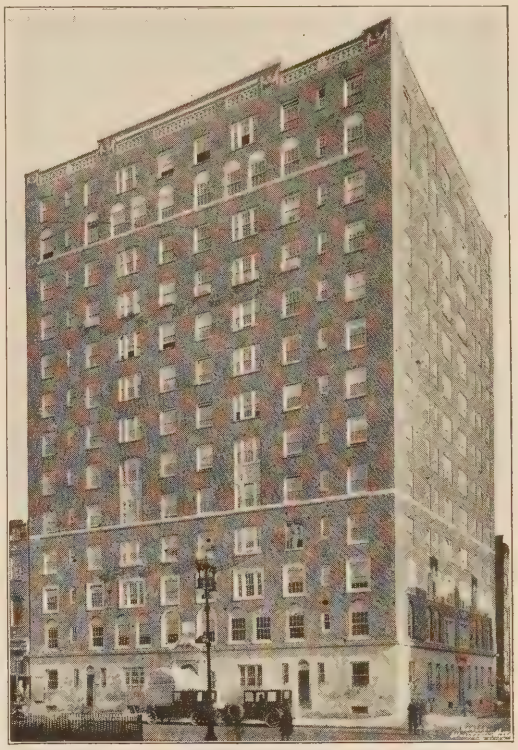
Saves Valuable Floor Space—3-inch Partitions: Absolutely sound-proof partitions, even less than 3 inches thick, can be built with Cabot's Quilt. Without this thin partitions would be too noisy to be tolerated. Even a 6-inch partition undeadened would not be sound-proof. This shows a great saving in floor space, and the income gained from this extra space will pay for the deadening many times over.

Saves Weight in Construction: These thin partitions are very much lighter than the thicker and more noisy partitions The total weight saved in the whole building is a very large item.

Reduces Cost of Construction: The thin partition, deadening included, is cheaper than the heavy non-deadened construction ordinarily used.

Sound-proof Floors deaden the noise of foot-steps, moving furniture, falling packages, romping children, dancing, etc.

Sound-proof Partitions make conversations private and kill the nuisance of phonographs, radio-graphs, musical instruments, etc.



Apartment House, No. 25 Fifth Avenue, N. Y.
Rouse & Goldstone, Architects, New York

Sound-proof Partitions Only 3 Inches Thick

New York, March 1, 1921.
Re: No. 25 Fifth Avenue.

Samuel Cabot, Inc., 1133 Broadway, New York City.

Dear Sir: We are pleased to acknowledge that the results obtained in the Apartment Building at the above address from the use of your Insulating Quilt for sound deadening have been highly satisfactory.

Your 2-ply Quilt was hung in the centre of double partitions between adjoining apartments, which construction has minimized the transmission of sounds from one apartment to another in a very satisfactory manner.

Our experience with your material in this building impels us to say that we would unhesitatingly use it in our future work of this character.

Very truly yours, HARBY, ABRONS & MELIUS, Inc.
(Signed) Isaac Harby, President.

Picturesque San Francisco Apartments
Floors Deadened with Cabot's Quilt
Henry C. Smith, Architect, San Francisco

Poteet Apartments, Kansas City, Mo.
Floors Deadened with Quilt
Owen & Payson, Architects, Kansas City, Mo.

"Cabot's Quilt, triple-ply, which we used for deadening floors in the sixteen-apartment building, is serving most admirably the purpose for which it was intended."
W. A. POTEET.

Partition Deadening in Apartment Houses

110 West 55th Street, New York
Schwartz & Gross, Architects. Julius Tishman & Sons, Owners and Builders

280 Madison Avenue, New York,
April 11, 1922.

Gentlemen: Your Sound Proofing Quilt was used by us in double plaster block partitions in our apartment house at 110 West 55th Street, New York City. We have been entirely satisfied with its results.

JULIUS TISHMAN & SONS, Inc.
D. TISHMAN, Sec'y.

New York, April 5, 1922.

Gentlemen: This is to inform you that we have used your Cabot's Sound Proofing Quilt with very excellent results. The Quilt was used in the double plaster block partitions in our building at the northwest corner of West End Avenue and 84th Street.

Very truly yours,

505 WEST END AVE. CORP.,
by ANTHONY A. PATERNO,
Pres.

505 West End Avenue, New York
G. Ajello, Architect. 505 West End Avenue Corp., Owners

Colonial Garden Apartments, Winthrop Street and Lenox Road, Brooklyn
Joseph Martine, Architect. Fredburn Construction Co., Owners

31 Union Square, N. Y., March 21, 1922.

Gentlemen: We have used your Sound Deadening Quilt in wood-stud dividing partitions in eight houses on Winthrop Street and Lenox Road, Brooklyn. The sound deadening results were very satisfactory both to the tenants and ourselves.

We have also used your Sound Deadening Quilt in our Forest Hills apartment and intend to use the same in our new six-story elevator apartment on Beverly Road, Brooklyn, now under construction.

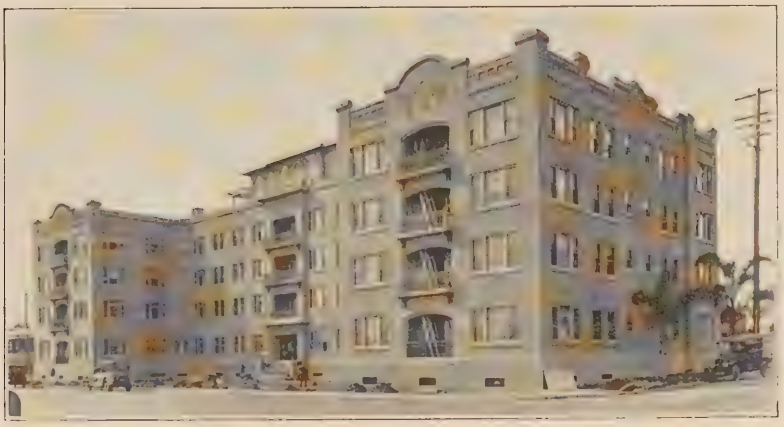
We unhesitatingly recommend the use of your Quilt.

Yours very truly,

FREDBURN CONSTRUCTION CO.
SAUL BERNSTEIN.

Floor Deadening in Apartment Houses

Chicago Lake Shore Apartments
Floors Deadened with Quilt
Paul Olson, Architect, Chicago



Barcelona Apartments, San Diego, Cal.
Floors Deadened with Quilt
Eugene M. Hoffman, Architect, San Diego

Another Chicago Apartment House
Floors Deadened with Quilt
Hugo J. Liedberg, Architect, Chicago. (See statement below)

Chicago, January 27, 1921.

Dear Sirs,— I am taking this opportunity of letting you know of the satisfactory results that we obtained in the use of your Quilt on our sixty-apartment building just completed at 1357-67 Greenleaf Avenue, this city, wherein your Double-ply Deafening Quilt was used throughout the floors for deafening.

I might call your attention to an incident that occurred at a recent visit to this building. A tenant playing the piano in a third floor apartment could not be heard by me in the apartment immediately below. This assured me of the complete results that had been gained by using your Quilt for deafening purposes. . . .

HUGO J. LIEDBERG.

Floor Deadening in Apartment Houses

Apartments in East Orange, N. J. B. Halstead Shepard, Architect, East Orange
Floors Deadened with Cabot's Quilt

Ballroom of the Rittenhouse, Pittsburg
Floor Deadened with Cabot's Quilt
Carlton Strong, Architect, Pittsburg, who writes as follows about this interesting job:

"The experiment of using the Cabot Quilt as a cushion under a ballroom floor has proven a great success in the new Rittenhouse, where it has now had a three-year test. . . . The resilience of the Quilt does away with the sense of fatigue that is characteristic of all 'dead' floors and insures the fullest enjoyment of the pleasurable exhilaration of dancing."

Metal Lumber Floors Sound-proofed with Cabot's Quilt
299 Clinton Avenue, Newark, N. J. William E. Lehman, Architect

Northeast Corner Broadway and 92d Street, New York City
Double Gypsum Block, Dividing Partitions Sound-proofed with Cabot's Quilt
Anthony Campagna, Owner. Rosario Candela, Architect

Single Gypsum Block Dividing Partitions, Bathroom Partitions and Elevator Shafts Sound-proofed with Cabot's Quilt
1075 Park Avenue, New York City
George and Edward Blum, Architects

Garden Apartments, Jackson Heights, New York, for Queensboro Corporation
Floors and Dividing Partitions Deadened with Cabot's Quilt
George H. Wells, Architect, New York

Sound Deadening in Hospitals

Sound-proof floors and partitions are of great importance in hospitals. Patients who require quiet should be isolated from the noises above, below and around them.

The sanitary qualities of Quilt — it will not get foul or rot, nor harbor insects or vermin — are of great value in hospital construction, and its fire-resisting properties are especially important in such buildings.

Dozens of hospitals have been deadened with Quilt, such as the Butler Hospital, Providence, R. I.; the Women's Hospital, Boston; Santa Rosa Infirmary, San Antonio, Tex.; St. Luke's Hospital, New Bedford; Sydney Hospital, Sydney, N. S.; Boston Psychopathic, etc.

Memorial Hall, Buffalo General Hospital
Partitions Deadened with Cabot's Quilt
Edward F. Stevens, Architect, Boston

Public Halls Disconnection from adjoining rooms is necessary for lecture halls, for their sake; for dance halls, for the sake of the neighbors. Quilt accomplishes it. It is just elastic enough to give the most delightful touch of resiliency to a dancing floor.

Y. M. C. A., Cambridge, Mass.
Deadened with Quilt, as per letters herewith
Hartwell, Richardson & Driver and Newhall & Blevins, Architects

Gymnasiums, Rinks, etc. Club houses or other buildings containing gymnasiums, skating-rinks, etc., should be protected from the noises inevitable in such places. Quilt has been especially successful for all such purposes, as the following letters show:

"In sound-proofing the floor of a Y. M. C. A. Hall, which formed at the same time the ceiling of the gymnasium below, we used five layers of Quilt, one inch of mortar, and a single thickness of ordinary felt, the latter being placed between the lining floor and the top floor. Upon completion of the work a test was made by gathering in the gymnasium a small crowd of boys under instructions to make all the noise possible by running, jumping, use of clubs, striking dumb-bells, etc. Except that some of this sound traveled through an air duct (which has since been changed), it was inaudible in the hall above, even with the ear placed upon the floor."

HARTWELL, RICHARDSON & DRIVER,
Architects, Boston.

"Relative to the insulating material placed in our assembly hall some *fifteen years ago*, would say that this material has given and is giving entire satisfaction, as we are troubled practically not at all by the noise from the gymnasium below."

H. T. WALLER, General Secretary Y. M. C. A., Cambridge, Mass.

Society Lodges Secret societies which wish to remain secret must enclose their lodges with a sound-proofing. The architects of the Boston Masonic Temple tried Quilt in the temporary lodges with such satisfaction that it was used in the splendid new building with the best results.

Mendon, Mich.

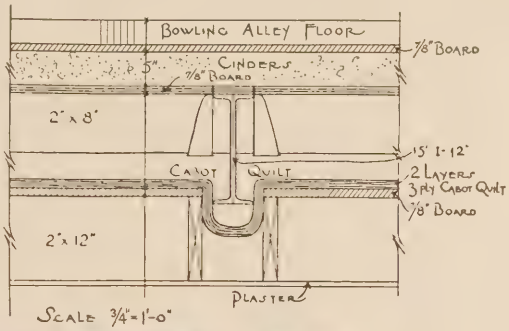
"The Deadening Quilt you sent us for deadening sound in our Masonic Temple was put down according to directions, and I can truthfully say it is all you claim for it — a complete deadener."

GEORGE ENGEL, W. M.,
Mendon Lodge, No. 137, F. & A. M.

Masonic Temple, Boston
Deadened with Asbestos Fireproof Quilt
Loring & Phipps, Architects, Boston

A Remarkable Case of Bowling Alley Sound Deadening

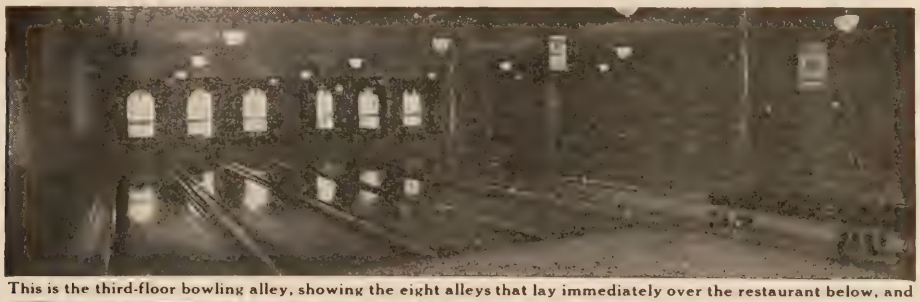
One of the greatest problems of building bowling alleys in cities is the noise. The rolling balls and their impact upon the pins, as well as the falling of the pins themselves, form a combination of penetrating noises which has often made a bowling alley a very bad neighbor and has seriously lessened the value of adjoining floors or buildings. The problem of avoiding this was presented to architect Leon E. Stanhope, of Chicago, recently in a very acute form, because he had an old city building to remodel, with stores in the lower story, a high-class restaurant in the second story, and bowling alleys in the two floors above. There were eight alleys on each floor, and if the sounds from these alleys could not be kept out of the restaurant one or the other of these establishments would have to go out of business, since a nice restaurant with a cabaret attachment cannot be expected to do business to the accompaniment of the noises of a bowling alley. Mr. Stanhope solved the problem. He deadened the floor and ceiling above the restaurant with Cabot's Triple-ply Quilt, laid as shown in this drawing, and the results were perfect, as described in his own words:



Chicago, April 10, 1915.

"There are eight bowling alleys on third floor and eight on the fourth floor, placed directly over a very handsome Oriental Café which seats six hundred persons. *With the entire sixteen alleys in operation the noise is not noticeable on the café floor.* . . . I am using Cabot's Quilt exclusively for deafening purposes and *particularly on account of the fire-resisting qualities.*"

LEON E. STANHOPE, Architect.



This is the third-floor bowling alley, showing the eight alleys that lay immediately over the restaurant below, and

this is the restaurant which does business every day and evening, and the patrons never realize that eight bowling alleys are working constantly over their heads.

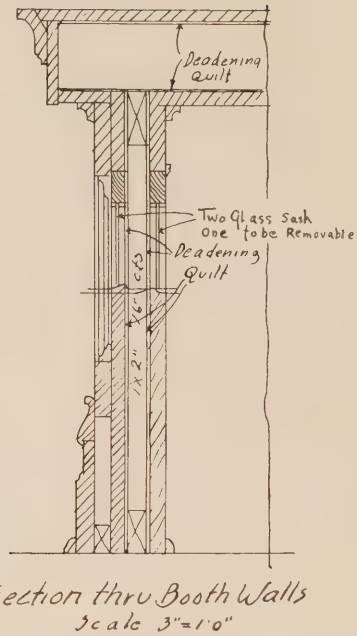
Calumet Office Building, Miami, Fla.
Deadened with Cabot's Quilt. August Geiger and E. L. Robertson, Architects, Miami

Sound-proof Talking Machine Rooms

Galveston, Texas, April 6, 1915.

"By this mail I am sending you blue-print plans of the phonograph booths in Goggan & Bros.' Music Store here. We used your Cabot's Quilt as a sound deadener and it has proven very satisfactory." D. N. McKENZIE, Architect.

Sound-proof Room at International Building Trades Exhibition, London, Eng.
Designed by J. Crowe, O. B. E., A. R. I. B. A.



(*London Evening News*)

The Noise-proof House

Rooms That Defy That Next-Door Gramophone

If the "noise-proof house" accomplishes all that is claimed for it you should not be further troubled by your neighbour's gramophone. Nor should his daughter's early morning "scales" disturb your slumbers.

This boon is on view at the thirteenth International Building Trades Exhibition, which opened at Olympia to-day.

Building Products, Ltd., at their stand invite you to enter their sound-deadened room. I sought sanctuary in it from the workmen's hammerings and bangings that were proceeding before the exhibition opened (writes an *Evening News* representative).

Not a sound was to be heard. I might have been standing in a desert.

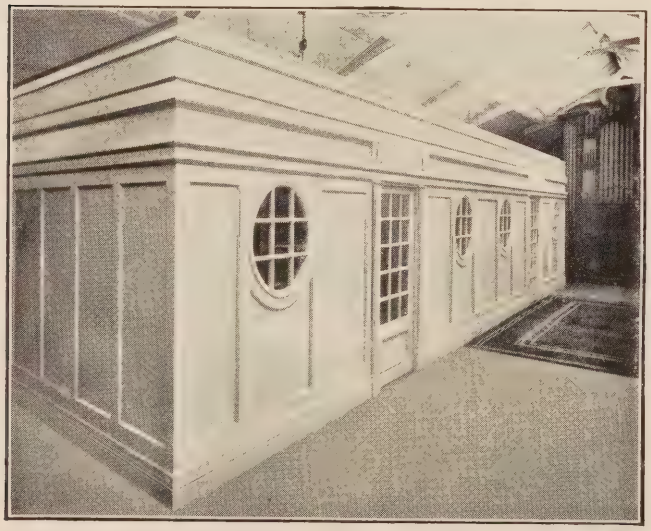
I tested the room thoroughly. A telephone bell two feet from the door was rung purposely, but it was impossible to hear it inside.

The secret of it is that the walls are packed with eel-grass,—a species of sea-weed,—which is sewn between sheets of brown paper. The double-glaze windows are air-tight.

Worcester, Mass.,
July 14, 1913.

"Relative to your inquiry as to the Cabot Quilt which we are using between partitions in our Victor rooms would say that we consider them practically sound-proof, and would gladly recommend it to any one that may be thinking of building rooms for similar use."

M. STEINERT & SONS CO.



Audition Rooms for Chappell Piano Co., 50 New Bond St., London, Eng.
J. Crowe, O. B. E., A. R. I. B. A., Architect, London

Deadening Audition Rooms in London

From letter of J. Crowe, O. B. E., A. R. I. B. A., architect of Audition Rooms for Chappell & Co., London:

London, 24 February, 1922.

"In designing these rooms it was essential that they should be sound-proof. After careful enquiries and consideration as to the best material to use, Cabot's Quilting was selected, and I have pleasure in stating that this material has proved most efficient and thoroughly reliable in every way, and has given both my clients and myself complete satisfaction."

J. CROWE.

London, 20 February, 1922.

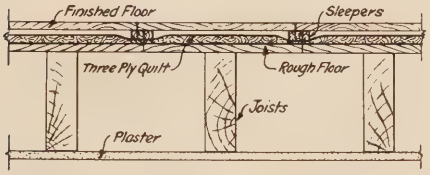
"We are pleased to state that the Audition Rooms have proved an immense boon to us. The rooms are really sound-proof, and are the first that have been experienced in the writer's twenty years' knowledge of the industry. Many congratulations."

THE CHAPPELL PIANO CO., Ltd.,
M. E. RICKETTS.

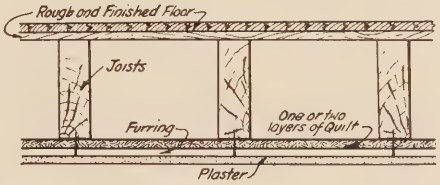
Floor Deadening Construction

Quilt Laid on Rough Flooring with Strips on which Finish Floor is Laid

Quilt Applied in Ceiling Covered by Furring Strips and Lath and Plaster



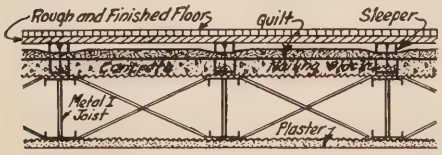
Section Showing above Construction



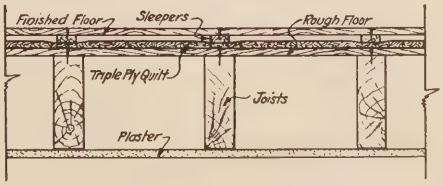
Section Showing above Construction

Quilt Laid on Concrete-and-Metal Lumber Floor with Furring Strips on which Finish Floor is Laid

Quilt Laid on Rough Floor and Finish Floor directly on Quilt without Strips



Section Showing above Construction



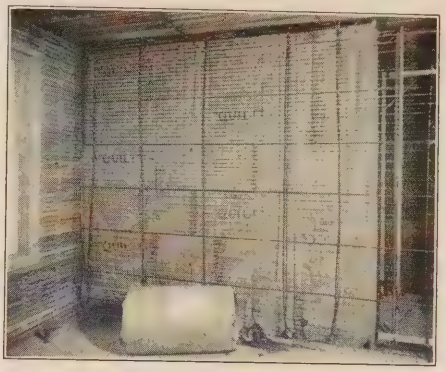
Section Showing Floating Method

(By this method furring strips are not nailed down and finish floor floats on Quilt. A successful method where practicable)

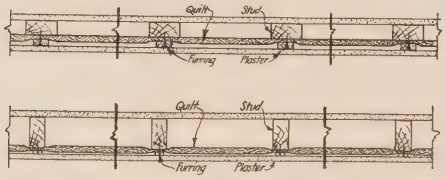
Partition Deadening Construction

The thinnest partitions, down to 2-inch thickness, can be deadened with Cabot's Quilt. Thin partitions save floor space, reduce weight, and lower cost.

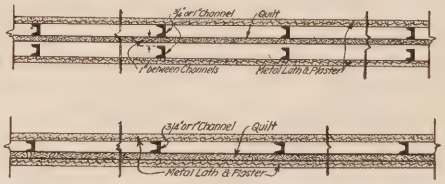
Wood-stud Partition under Construction, Showing Method of Installing Cabot's Quilt



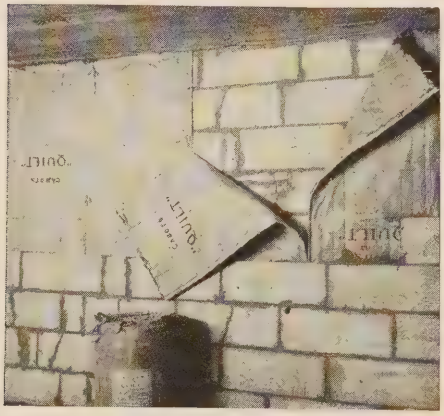
Metal Lath and Plaster Partition under Construction, Showing Use of Cabot's Quilt in 2⅜-inch Partition. Completely Sound-proof



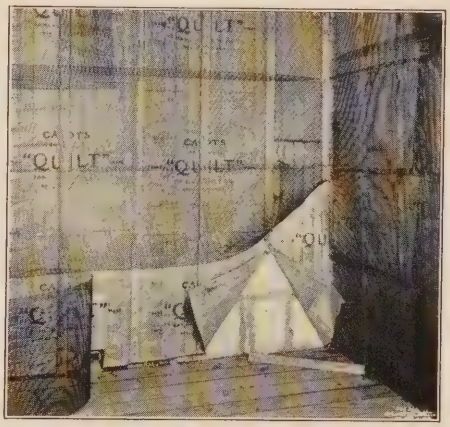
Two Sectional Views Showing Use of Cabot's Quilt in Wood-stud Partitions



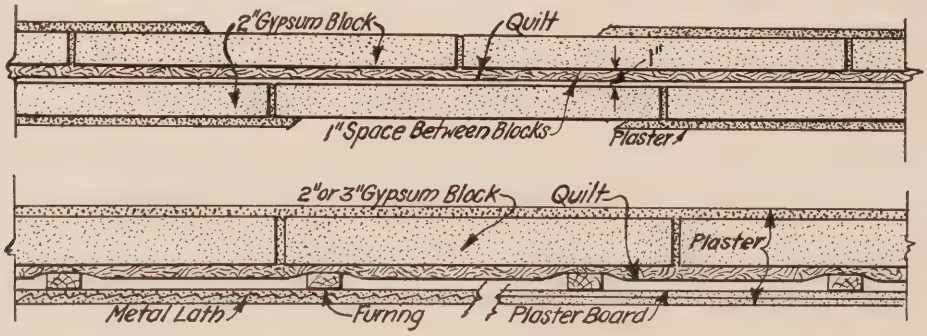
Sections of Metal Lath Partition with Cabot's Quilt



Showing Application of Quilt in Double Gypsum Block Partition



Single Gypsum Block and Metal Lath Partition with Cabot's Quilt



Sections of Gypsum Block Partitions with Cabot's Quilt

The Staggered Stud Method in Wood Construction

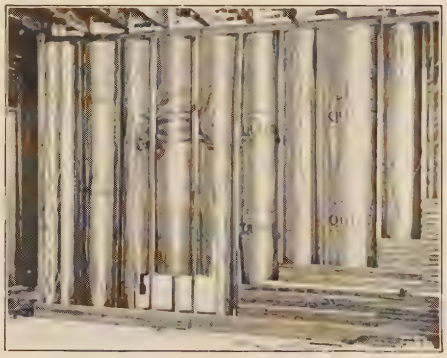
Staggered Wood-stud Partitions Sound-proofed with Cabot's Quilt
Caton Ave., East 11th and 12th Streets, Brooklyn, N. Y. D. Everett Wade, Architect

Methods of Construction used in buildings for New England Conservatory of Music

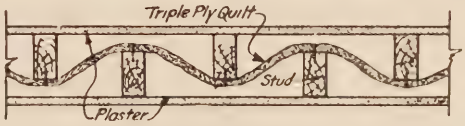
The accompanying photographs—taken during construction of the buildings — show the style of partition adopted.

Fig. 1. This shows the partition used in the Conservatory of Music, consisting of two layers of Keystone Plaster Block, with Quilt between.

Fig. 2. Shows the construction employed in the Dormitories, where the plaster board was wired on to the metal studding through the lining of Quilt.



Showing Quilt Woven through "Staggered" Studs in Wood Construction



Section Showing above Construction

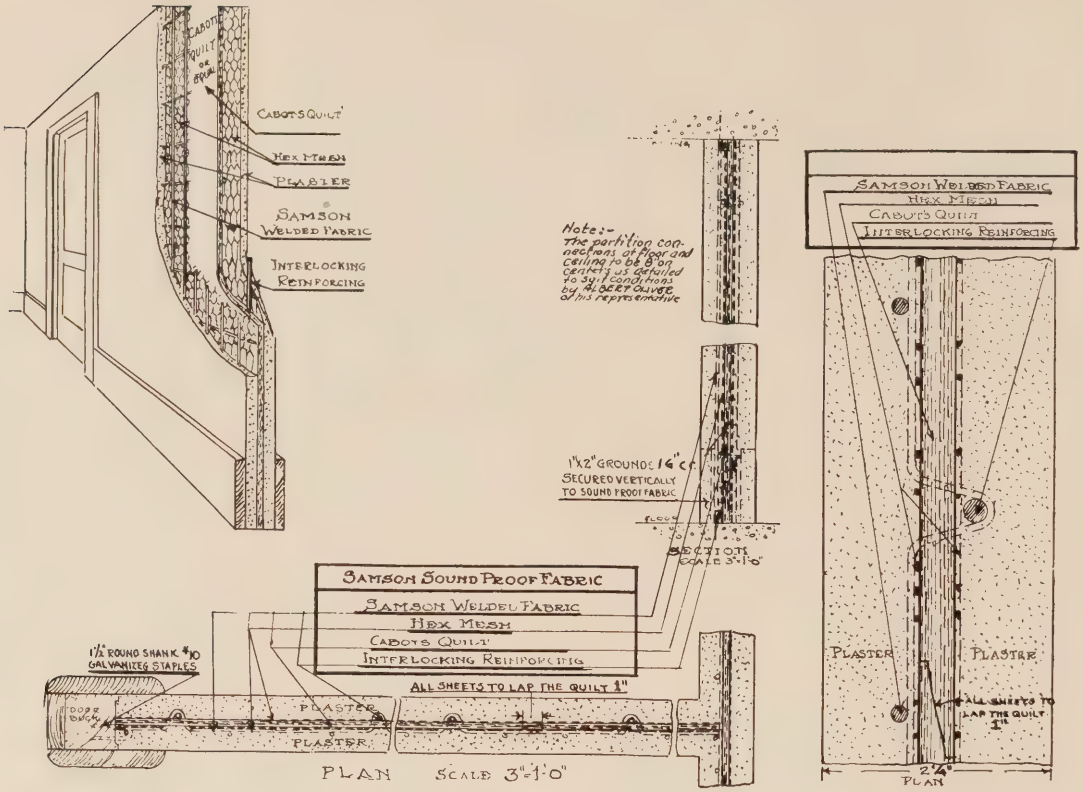
"I used your Quilt quite a different way this time to see if it were not possible to improve the deafening qualities, and we are greatly pleased with the results. The building is rather bare, only partly occupied this month; but mechanics can work on the floor above you and you scarcely know they are working, so we really expect very gratifying results." E. G. BAUMAN,
Mt. Vernon, N. Y.

"I specified your Quilt for floors in the Nelson Apartment this spring and the result was entirely satisfactory."
JAMES L. MONTGOMERY, Charleston, W. Va.

"One year ago I built a double side-by-side house. I have 2-inch air chamber through center, two sets of uprights; used your Cabot's Quilt for deafening with good results."
CHARLES W. ALBRACHT, Rochester, N. Y.

"I have been a constant user of Cabot's Quilt for a number of years. I have specified it in most of the jobs designed and constructed under my supervision since 1896. As a sound deadener it has no equal." PAUL GERHARDT, Architect,
Chicago, Ill.

Samson Sound-Proof Solid and Hollow Partitions



Specifications

Sound-proof Partitions

The partitions to be Samson Sound-proof Partitions, erected under the direction of Albert Oliver, New York City, or his representative. They shall consist of electrically welded wire, hex netting, Cabot's Quilt, and the interlocking reinforcing required on the face of the sheet opposite to the face where the electrically welded wire forms the reinforcing. All wire shall be galvanized.

The interlocking reinforcing wire shall be of a weight to practically balance that of the verticals in the electrically welded reinforcing.

The connections at floor and ceiling and at all openings shall be the standard connections shown on the drawings furnished by Albert Oliver or his representative.

Partitions shall finish 2¼ inches over all. Plastering may consist of either of the following mixtures of mortar:

Gypsum Gauged Mortar — The lime and sand mortar shall consist of one part of lime to eight parts of sand. The mortar as erected shall consist of one part of calcined plaster to three parts of mortar.

Cement Gauged Mortar — The lime and sand mortar shall be as above specified. The mortar as erected on the partitions shall consist of one part of Portland cement to four parts of mortar.

The scratch coat shall be applied and left rough to receive the brown coat. The second coat shall follow within 48 hours after the erection of Gypsum Gauged or Cement Gauged Mortar.

If Cement Gauged Mortar is used the wall surfaces which are to receive a white finish coat of lime and plaster shall be left after the edge of the plasterer's darby has been drawn over the soft mortar surface, and floating will not be permitted on such walls.

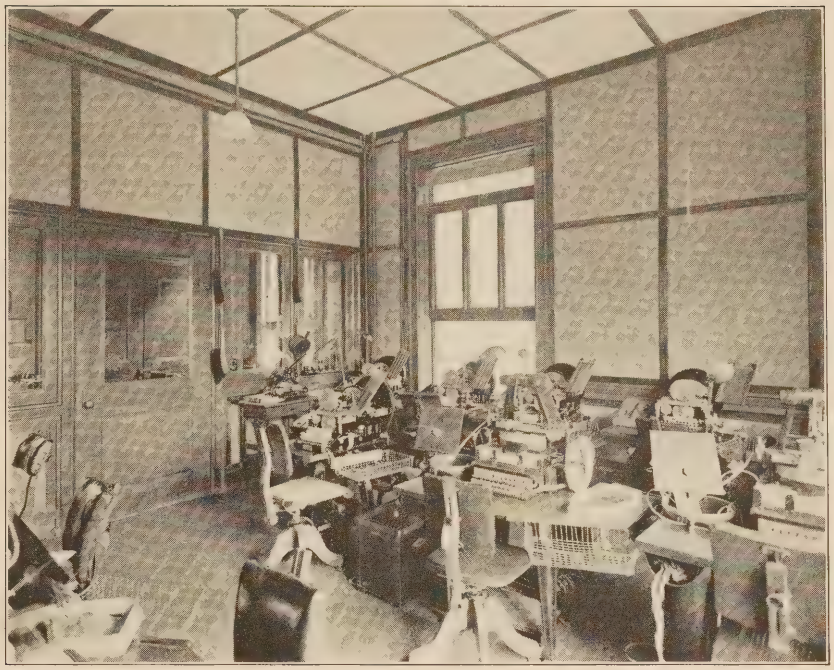
In all cases mortar for scratch coat and brown coat will be alike and hair or fibre need not be used.

Lath and Plaster Partitions

In erecting Samson Sound-proof Sheathing on wood studding or joists round shank No. 11 galvanized wire staples will be used, and placed not to exceed 8 inches on centers.

The mortar used for plastering to be the same as specified for solid partitions, or it may be any well-known brand of prepared hard mortar, used according to the directions issued by the manufacturers.

Cabot's Quilt for Acoustical Correction



Office in Boston Showing Method used with Remarkable Success in Correcting Acoustical Defects Room Full of Stencil-cutting Machines

The report on this job says:

"Their carpenters laid one layer of Double-ply Quilt on ceilings and covered it with duck, one layer on walls and covered it with burlap, two layers on floors and covered it with linoleum. All those interested in this department were astonished at the remarkable change brought about and very much pleased. Mr. Fiske says it has increased the production about 100% and that he hears no complaints from the girls about noise, whereas before a girl would only work a short time in such a noisy room and then leave."

A good deal of mystery and a large bill of expense has been attached to the correction of acoustical defects in auditoriums and offices which are mainly caused by the echo or reverberation of sounds from hard wall plaster walls and ceilings. Cabot's Quilt will correct such troubles at very small cost. It can be applied by any carpenter almost as easily as wall-board, and covered with upholstery burlap or with cotton cloth tinted to any desired color; and the expense is only about one-quarter that of the more elaborate methods. The fire-resisting qualities of Quilt, as well as its sanitary character, are especially valuable in such work.

One of the first jobs of this kind ever done was in the New England Conservatory of Music, Boston, where a music recitation hall was so resonant that it could not be used. Panels of Quilt covered with burlap made the walls so dead that some of the panels had to be removed, and the conditions then became perfectly satisfactory.

The story of the Franklin County Court, St. Albans, Vt., is told in the following letter from the contractors:

St. Albans, Vt., April 14, 1916.

"We are glad to inform you that we were entirely successful in deadening the echo in the Franklin County Court Room of this place, or so far removing it that conversation is easily heard in the room.

"This room is about 50 feet square by 25 feet high, and the ceiling was beamed, forming panels about 12 inches deep.

"The beams were removed and the ceiling covered with a layer of your Asbestos Quilt fastened in place by being thoroughly nailed along the edges.

"Over this was placed a layer of natural colored burlap, also stretched and nailed and neatly panelled by means of 7/8 x 3 wood strips painted in a darker shade and forming an attractive looking ceiling of cushioned panels.

"The echo in this room had been a great annoyance, it being almost impossible to hear the evidence of a low spoken witness."

Yours very truly,

W. B. FONDA COMPANY.

Cabot's Quilt as a Fire-Protection

Four Actual Cases where Buildings were Saved from Serious Damage or Destruction by Fire. Each Case Described by the Architect of the Building

(The remarkable testimonials quoted on this page furnish the most conclusive and striking proof of the fire-resisting power of Quilt. They refer only to the Standard Quilt, paper covered, and not to the Asbestos Quilt. The latter is even more fireproof and used in all kinds of fireproof construction.)

High School, Union Mills, Indiana

This schoolhouse was saved from destruction by fire by the Cabot's Quilt that was used for deadening the floors, as described in the following letter:

"Is Cabot's Quilt fire-retarding? I will answer this by relating the experience we had with your Quilt. When the Union Mills High School was in the course of erection the trustees ordered the painters to give the floors a coat of some kind of liquid to lay the dust. This liquid was put on with a common cotton mop. In the evening, not having completed the work, the men left the pail and mop in the centre of the schoolroom, and during the night spontaneous combustion took place and burned up the pail and mop, together with some five or six square feet of the top floor, *burnt down to the Quilt and went out.* . . . This little instance has made many friends for Quilt."

GEORGE W. ALLEN & SON,
Architects, Laport, Ind.

"You will be interested to know of an experience I had recently with your seaweed quilting, which proved it to be a good fire-resister. In finishing a room in my stable I covered the studding with one thickness of the quilting for warmth and then sheathed over it with pine sheathing, which was finally varnished. The room took fire from an over-heated stove and, although some of the sheathing burned completely through, the studding behind the sheathing remained in perfect condition and showed no trace of fire."

S. W. MEAD, Architect, Boston.

"I consider Cabot's Eel-grass Insulating Quilt a wonderful fire-retardant. Two years ago when rebuilding the North Side High School, which had been partially destroyed by fire, we found the Cabot's Quilt which was used for sound-deadening underneath the floor to be practically intact. The hardwood floor and furring strips over the material had been completely consumed in many instances. I think this fire test substantially confirms the claims of the Cabot Company as to the fire-resisting quality of their Quilt."

J. E. PILGRAM.

Minneapolis, May 27, 1915.

"In the recent fire at the Mountain View Methodist Church ample testimony was given of the very high fire-resisting qualities of this Quilt. . . . the fire commenced in the outside wall, running to the roof, then burning downwards. When the fire reached the ground floor and came in contact with Quilt, this being used for deafening, the flames were checked and only made their way to the basement through an aperture made by falling of heavy timbers from above. After the fire among the ruins could be found large quantities of the Eel-grass Quilt, with only the paper covering destroyed by fire."

G. A. HOREL,
Architect, S. Vancouver, B. C.

Hough Building, Schenectady, N. Y.
L. Rodman Nichols, Architect

" . . . in the Hough Building, this city, where we had quite a serious fire in the corner store, and the firemen on tearing up the second floor found *that the Quilt had held the fire in and the material was not even charred.*"

L. RODMAN NICHOLS,
Architect, Schenectady, N. Y.

From Underwriters' Laboratories Report

on Interior Building Construction, Consisting of Metal Lath and Gypsum Plaster on Wood Supports, submitted by Associated Metal Lath Manufacturers and National Lumber Manufacturers' Association:

Showing Use of Cabot's Quilt in Floors

"The Quilt was applied in longitudinal courses lapping at the adjacent edges 2½ to 5 inches, averaging about 3 inches. The 2 x 2-inch furring strips were attached over the Quilt around the edges of the panel and along the top of each joist, and was securely attached through the Quilt and rough flooring joist by 3½-inch nails driven into each joist. The 1 x 4-inch dressed and matched flooring was laid over the furring strips; 2½-inch casing nails were used, one nail to each furring strip."

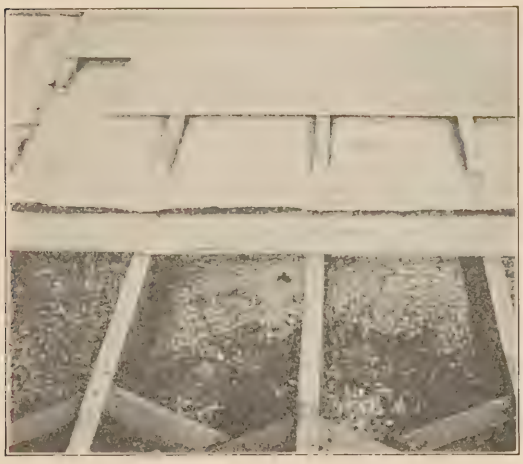


Fig. 38. View of Floor and Ceiling Construction Subjected to 75-minute Exposure to Standard Fire Endurance Test. This photograph shows arrangement of parts comprising the construction.

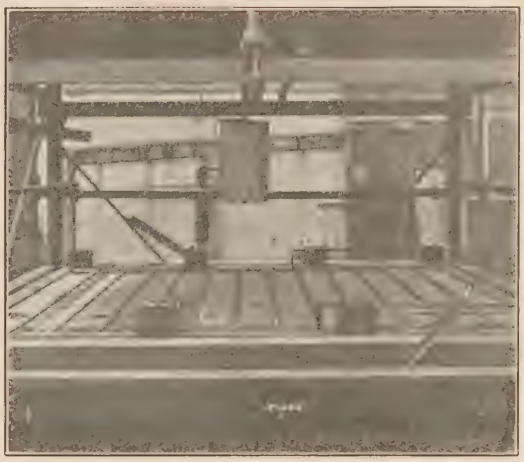


Fig. 48. View Looking West, Showing Furring Strips and Deadening Felt after finished floor was removed after Fire and Hose Stream Test.

Floor Showing Construction and Quilt Insulation as it appeared before and after undergoing the Standard Fire Endurance Test for 75 minutes.

The furring strips were undamaged and remained in position, but were slightly discolored. The condition of the furring strips after test is shown by Fig. 48.

The insulation appeared in normal condition after test except immediately above the area where the fire charred the rough flooring. The condition of the insulation after test is shown by Figs. 48 and 56.

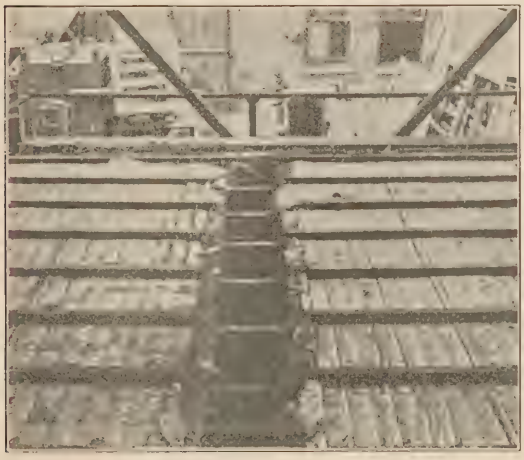


Fig. 33. View of Floor and Ceiling Construction after Fire Endurance Test, Looking North at Top of Furnace. Brick load and top flooring removed, showing condition of 2 x 2-inch furring strip and of the insulation. Rough floor in the center strip was removed after test to permit inspection of joist and joist bay species.

The floor was loaded to 50 lbs. per square foot, and this is how it looked after the test with the lead and upper flooring removed, showing the remarkable condition of the Quilt.

Fig. 56. View Showing Condition of Deadening Felt immediately above the damaged area in the rough flooring after Fire and Hose Stream Test.

Showing where the Quilt was subjected to the most severe conditions of the test.

Heat Resistance. The observations on the top of the floor indicated that the transmission of heat through the test sample was very slight throughout the test. . . . The highest temperature reading of the thermometer mounted on the upper face of the top flooring was 100° F. at 73 minutes.

Quilt for Heat Insulation

For Houses, to Make Them Warm in Winter and Cool in Summer; for Cold Storage, Fruit Storage and Ice-houses; for Refrigerators, Dryers, etc., and for Roof Insulation in Factories

The laminated structure of the Quilt which makes it so efficient for breaking up and absorbing the sound-waves, also forms innumerable small air-spaces. These air-spaces are of irregular size and shape so that the air cannot circulate in them or through the Quilt, but lies as "dead" as is possible. Dead air is the best of all heat insulators

This structure makes Quilt perhaps the most efficient heat-insulator on the market. It is certainly equal in efficiency to any insulator at any price, and has many other advantages that no other insulator possesses. It is the only insulator that is now considered practicable which is fire-resistant, and the only one that is decay-proof and permanent.

House Insulation

Quilt will pay for itself in two hard winters in saving fuel, to say nothing of doctor's bills and comfort. It makes a thermos bottle of your house, preventing the escape of the heat. It makes the heat of your heater work for you all day, like the heat of a fireless cooker, instead of escaping through the roof and walls of the house.

Russell S. Walcott, Architect, Chicago

Leon E. Stanhope, Architect, Chicago

"Underwear for Houses"

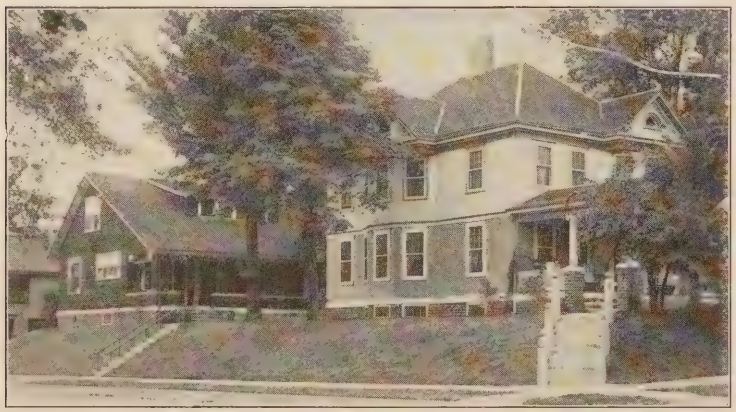
The above pictures show two fine residences near Chicago in process of construction, with their "underwear" of Cabot's Quilt and strips over which the outside finish is laid.

Underclothing makes us warm because it prevents the heat of the body from escaping Cabot's Quilt makes the house warm by preventing the heat from escaping. It insulates the whole house and keeps the heat of your heater in exactly as the heat is kept in a fireless cooker.

"Warm and Comfortable" — a remarkable story from frozen Alaska

"I used Cabot's Quilt in constructing a cabin at Resurrection Bay, Alaska. The walls, roof and floor were rough, 12-inch boards, double, with Quilt between the boards. Coming into the cabin at the end of a day's work, I found it still warm and comfortable from the small fire used in getting breakfast twelve hours before, during all of which time the wind was blowing furiously from the north, the temperature being from 10 to 15° below zero."

Seattle, July 30, 1913. CHARLES D. HAWLEY.



Overton Residences, Keokuk (see letter opposite)

"Coal Bill not over $50 in a Ten-Room House"—in Iowa

"This winter the house has been very warm. My coal bill will not be over $50 in a ten-room house, using hot water heat. I surely can recommend your building Quilt highly, *and see how little it costs for the amount of comfort.*" GEORGE A. WARDEN.

Ottumwa, Iowa, March 18, 1913.

"Very Warm" in Winter; "Coolest" in Summer

"Your books will show that in April, 1912, I purchased quite a quantity of your Quilt . . . used on the buildings a picture of which is enclosed—not only, however, on the roof of the bungalow, but all over and between the floors of the largest building. This latter building is very warm, and can observe a considerable decrease in the use of fuel, and last summer, as hot as it was, the house was the coolest in the neighborhood."

Keokuk, Iowa, December 31, 1913. F. C. OVERTON.

Cold Storage Insulation

All kinds of cold storage and ice-houses, as well as fruit storage, ice manufactories, and household ice-boxes, can be insulated with Quilt in the most effective and permanent way and at the lowest cost. The fire-resisting properties and sanitary qualities — decay and insect-proof — are of special importance in this construction.

Chicago, November 7, 1921.

"You have asked us for our opinion as to the merits of Cabot's Quilt for insulation. We are glad to say that we used it for such purpose in one of our buildings erected two years ago, using the specifications furnished by you as to the number and kind of layers required.

"The first floor with this insulation is immediately above our engine room where the temperature at the ceiling often runs as high as 115° F. in the summer time, due to the fact that our boiler room immediately adjoins it. Between this ceiling and the floor above we have I-beams and brick arches and ten layers of your Quilt. Upon testing same we are able to bring the temperature on this floor to 18° below zero and have had no trouble ever since, maintaining from 8 to 10 below zero, even when receiving and shipping goods. We have had no trouble with leakages of temperature or moisture. We do not hesitate to recommend your article."

Very truly yours,

GEO. J. COOKE CO.,
by Geo. J. Cooke,
President.

"Cabot's Quilt does not need an introduction to the writer. I have used quite a bit of it during the last twelve years in California. The first storage built with it twelve years ago is giving excellent results after the twelve years' service."

WILL D. STEVENS,
Consulting and
Refrigerating Engineer.

Los Angeles, Cal.,
February 13, 1919.

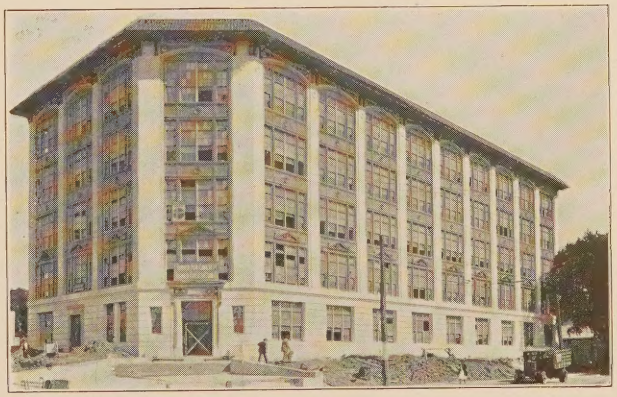
George J. Cooke Co., Cold Stores, Chicago
Insulated with Cabot's Quilt

Why go to the expense of building a concrete or brick fireproof building and then line it with four to eight inches of Cork, or some other inflammable wood or fibre insulator? The only fireproof cold storage building is the one built of
CONCRETE OR BRICK, STEEL AND QUILT.

Roof Insulation

Roofs of factories, office buildings, apartments, hotels, and all buildings where heat conservation is important, — and that means nearly all buildings, — should be insulated. This prevents escape of heat in winter, and in factories prevents the condensation of moisture upon the upper ceiling and consequent dampness and damage It makes the upper rooms cooler in summer by insulating against the heat of the sun.

Send for
Special Catalogue on
Insulation



Home of "Life Savers." Mint Products Co. Factory, Port Chester, N. Y.
Roof Insulated with Cabot's Quilt
Lockwood, Greene & Co., Engineers. Turner Construction Co., Builders

Grades of Quilt

1. **Single-ply** is the grade commonly used for lining houses and similar work. One layer is equal to twenty-eight of common paper. It is about ⅓-inch thick.

2. **Double-ply** is used for sound deadening, cold storage insulation, and for all house and similar work where special results are required. One layer is equal to more than forty of common paper. It is about ½-inch thick.

3. **Triple-ply** is a new grade especially designed for cold storage, refrigerators, and other special work. It is about ⅔-inch thick.

4. **Asbestos Quilt** is the double-ply Quilt covered on both sides with Asbestos. The regular Quilt is very uninflammable, as fire will not spread through the eel-grass, but Asbestos Quilt adds to this and produces a fireproofing effect far superior to that of sheet asbestos because of the great heat insulating power of the Quilt. This prevents conduction of heat through to inflammable substances on the other side, and asbestos alone does not do this. It is the only sound deadener that is fireproof, and the only fireproofing that is an efficient deadener.

5. **Waterproof Quilt** is the double-ply made with heavy waterproof paper.

Shipment, Orders, etc.

Quilt is shipped in rolls (pp. 1, 3), and each roll contains a continuous sheet eighty-four feet long and three feet wide, or two hundred and fifty square feet. Each roll contains tin caps for nailing.

We always make prompt shipment and ship by the cheapest route unless otherwise instructed.

Orders from parties with whom we have had no previous dealings must be accompanied by remittance or satisfactory references.

Always specify the grade of Quilt desired.

Trade Mark

The word "Quilt" is our registered trade mark. Infringers will be prosecuted.

SAMUEL CABOT, Inc., Manufacturing Chemists

BOSTON, U. S. A.

NEW YORK **CHICAGO**

Cabot's Creosote Shingle Stains

The Original and Standard Shingle Stains. For Staining and Preserving Shingles and Other Exterior Woodwork

Cabot's Waterproof Stucco and Brick Stains

For Waterproofing and Staining Stucco, Concrete, and Brickwork. They Stain in Soft, Rich Tones without Coating, and Cannot Crack, Chalk, or Peel, as Coatings do

Cabot's Old Virginia White

A Soft, Cool, Brilliant White for Shingles and Other Rough Woodwork

Cabot's Old Virginia Tints

The Old Virginia White Tinted in Delicate Tones. They Give the "Pastel Effect"

Cabot's Double-White

Whiter than Lead-and-Oil Paint and Has 50% More Hiding Power

Conservo Wood Preservative

Thoroughly Preserves Posts, Piles, Planking, Sills, Wharves, and all Other Lumber from Decay or Insects

Cabot's Flexiblac

A Protective Coating for Steel and Iron

Cabot's Ready Roofing Stains

For Beautifying and Protecting Asphalt Shingles and Other Surfaced Roofings

Cabot's Mortar Colors

Paste Colors of Great Strength and Durability for Reliable Mortar Staining

Cabot's Dampproofing

A Waterproof and Bonding Damp Course

Samuel Cabot, Inc.

Manufacturing Chemists Boston, Mass., U. S. A.

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